

California Arbovirus Surveillance Bulletin #12

Week 25 Friday, June 21, 2019



Weekly Update

Humans

No human infections have been reported in 2019. At this time last year, 9 human cases of West Nile virus (WNV) disease had been reported from 6 counties.

Dead Birds

Two WNV positive dead birds were reported this week from San Joaquin County. **These are the first WNV positive dead birds reported from San Joaquin County this year.** In 2019, a total of 5 WNV positive dead birds have been reported from 3 counties. At this time last year, 27 WNV positive dead birds had been reported from 10 counties.

Mosquito Pools

West Nile virus

A total of 63 WNV positive mosquito pools were reported this week from 6 counties: Fresno (7), Kern (1), Riverside (49), San Bernardino (1), San Joaquin (3), and Tulare (2). **This is the first detection of WNV activity in Kern and San Bernardino counties this year.** In 2019, a total of 220 WNV positive mosquito pools have been reported from 7 counties. At this time last year, 31 WNV positive mosquito pools had been reported from 7 counties.

St. Louis encephalitis virus

A total of 6 mosquito pools were reported positive this week for St. Louis encephalitis virus (SLEV) from 3 counties: Fresno (4), Riverside (1), and Tulare (1). **This is the first detection of SLEV activity in Fresno and Riverside counties this year.** In 2019, 8 SLEV positive mosquito pools have been reported from 3 counties: Fresno (4), Riverside (1), and Tulare (3). At this time last year, 11 SLEV positive mosquito pools had been reported from 3 counties.

Sentinel Chickens

No seroconversions have been reported in 2019.

2018 & 2019 YTD West Nile Virus Comparisons		
	2018	2019
Total # Dead Bird Reports	2,591	2,289
# Positive Counties	15	8
# Human Cases	9	0
# Positive Dead Birds / # Tested	27 / 614	5 / 633
# Positive Mosquito Pools / # Tested	31 / 11,302	220 / 11,423
# Seroconversions / # Tested	0 / 3,260	0 / 2,716

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YTD WNV Activity by Element and County, 2019				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Fresno			9	
Kern			1	
Orange		2	1	
Riverside			177	
San Bernardino			1	
San Diego		1		
San Joaquin		2	5	
Tulare			26	
Totals	0	5	220	0

TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	0	0	0
	YTD	0	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	57	2
	YTD	633	5

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	386	0	0	0
	YTD	2,716	0	0	0

Mosquitoes

		Positive / Total Tested					
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA
		63 / 1,737	6 / 1,695	0 / 1,548	0 / 49	0 / 49	0 / 49
		YTD	220 / 11,473	8 / 10,524	0 / 10,049	0 / 131	0 / 131

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POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
San Joaquin	San Joaquin Co MVCD	Manteca	95336	American Crow	6/18/2019	WNV
San Joaquin	San Joaquin Co MVCD	Manteca	95336	American Crow	6/19/2019	WNV

Mosquito pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	CNSL1062	65	Cx. quinquefasciatus	Fresno	45	GRVD	6/12/19	WNV
Fresno	CNSL1068	66	Cx. quinquefasciatus	Fresno	50	GRVD	6/12/19	WNV
Fresno	CNSL1200	80	Cx. quinquefasciatus	Fresno	50	GRVD	6/13/19	SLEV
Fresno	CNSL1581	81	Cx. quinquefasciatus	Fresno	50	GRVD	6/13/19	WNV
Fresno	FRNO111	196	Cx. quinquefasciatus		28	BGSENT	6/20/19	SLEV
Fresno	FRNO111	196	Cx. quinquefasciatus		28	BGSENT	6/20/19	WNV
Fresno	FRNO165	158	Cx. quinquefasciatus		29	GRVD	6/18/19	WNV
Fresno	FRNO229	173	Cx. quinquefasciatus	Fresno	46	GRVD	6/19/19	WNV
Fresno	FRNO35	185	Cx. quinquefasciatus	Fresno	50	GRVD	6/20/19	WNV
Fresno	FRNO61	193	Cx. quinquefasciatus	Fresno	50	BGSENT	6/20/19	SLEV
Fresno	FRNO61	194	Cx. tarsalis	Fresno	10	BGSENT	6/20/19	SLEV
Kern	KERN2005	229	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/14/19	WNV
Riverside	COAV0	3152	Cx. quinquefasciatus		25	CO2	6/15/19	WNV
Riverside	COAV0	3158	Cx. quinquefasciatus		16	GRVD	6/18/19	WNV
Riverside	COAV0	3185	Cx. quinquefasciatus		50	CO2	6/18/19	WNV
Riverside	COAV0	3194	Cx. quinquefasciatus		21	GRVD	6/18/19	WNV
Riverside	COAV0	3257	Cx. quinquefasciatus		50	GRVD	6/18/19	WNV
Riverside	COAV0	3258	Cx. quinquefasciatus		29	CO2	6/18/19	WNV
Riverside	COAV0	3260	Cx. quinquefasciatus		39	GRVD	6/18/19	WNV
Riverside	COAV0	3360	Cx. quinquefasciatus		50	GRVD	6/19/19	WNV
Riverside	COAV10	3291	Cx. tarsalis	Thermal	50	CO2	6/18/19	WNV
Riverside	COAV10	3293	Cx. tarsalis	Thermal	50	CO2	6/18/19	WNV
Riverside	COAV10	3302	Cx. quinquefasciatus	Thermal	50	CO2	6/18/19	WNV
Riverside	COAV121	3176	Cx. tarsalis	Mecca	50	CO2	6/14/19	WNV
Riverside	COAV121	3178	Cx. tarsalis	Mecca	50	CO2	6/14/19	WNV
Riverside	COAV130	3280	Cx. tarsalis	Mecca	50	CO2	6/18/19	WNV
Riverside	COAV130	3281	Cx. tarsalis	Mecca	50	CO2	6/18/19	WNV
Riverside	COAV130	3282	Cx. tarsalis	Mecca	50	CO2	6/18/19	WNV
Riverside	COAV130	3283	Cx. tarsalis	Mecca	26	CO2	6/18/19	WNV
Riverside	COAV131	3277	Cx. tarsalis	Oasis	50	CO2	6/18/19	SLEV
Riverside	COAV131	3278	Cx. tarsalis	Oasis	50	CO2	6/18/19	WNV
Riverside	COAV132	3224	Cx. tarsalis	Mecca	50	CO2	6/18/19	WNV
Riverside	COAV132	3225	Cx. tarsalis	Mecca	50	CO2	6/18/19	WNV
Riverside	COAV132	3226	Cx. tarsalis	Mecca	50	CO2	6/18/19	WNV
Riverside	COAV200	3170	Cx. quinquefasciatus	Mecca	46	BGSENT	6/14/19	WNV
Riverside	COAV208	3251	Cx. quinquefasciatus	Palm Springs	50	CO2	6/18/19	WNV
Riverside	COAV208	3252	Cx. quinquefasciatus	Palm Springs	50	CO2	6/18/19	WNV
Riverside	COAV208	3322	Cx. quinquefasciatus	Palm Springs	50	GRVD	6/19/19	WNV
Riverside	COAV302	3350	Cx. quinquefasciatus	Rancho Mirage	43	GRVD	6/20/19	WNV
Riverside	COAV33	3233	Cx. tarsalis	Mecca	50	CO2	6/18/19	WNV

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Riverside	COAV34	3208	Cx. tarsalis	Mecca	50	CO2	6/18/19	WNV
Riverside	COAV35	3221	Cx. tarsalis	Mecca	50	CO2	6/18/19	WNV
Riverside	COAV35	3222	Cx. tarsalis	Mecca	34	CO2	6/18/19	WNV
Riverside	COAV37	3211	Cx. tarsalis	Mecca	50	CO2	6/18/19	WNV
Riverside	COAV37	3212	Cx. quinquefasciatus	Mecca	50	CO2	6/18/19	WNV
Riverside	COAV401	3159	Cx. quinquefasciatus	Palm Desert	45	GRVD	6/18/19	WNV
Riverside	COAV412	3375	Cx. quinquefasciatus	Rancho Mirage	36	GRVD	6/20/19	WNV
Riverside	COAV419	3253	Cx. quinquefasciatus	La Quinta	50	GRVD	6/18/19	WNV
Riverside	COAV419	3254	Cx. quinquefasciatus	La Quinta	22	GRVD	6/18/19	WNV
Riverside	COAV420	3201	Cx. quinquefasciatus	La Quinta	50	GRVD	6/18/19	WNV
Riverside	COAV421	3261	Cx. quinquefasciatus	Indio	48	GRVD	6/18/19	WNV
Riverside	COAV423	3241	Cx. quinquefasciatus	Indio	50	GRVD	6/18/19	WNV
Riverside	COAV427	3329	Cx. quinquefasciatus	Palm Desert	45	BGSENT	6/20/19	WNV
Riverside	COAV428	3199	Cx. quinquefasciatus	Indio	50	GRVD	6/18/19	WNV
Riverside	COAV430	3244	Cx. quinquefasciatus	Indio	50	GRVD	6/18/19	WNV
Riverside	COAV431	3313	Cx. quinquefasciatus	Palm Springs	50	GRVD	6/19/19	WNV
Riverside	COAV431	3314	Cx. quinquefasciatus	Palm Springs	50	GRVD	6/19/19	WNV
Riverside	COAV431	3315	Cx. quinquefasciatus	Palm Springs	38	CO2	6/19/19	WNV
Riverside	COAV541	3264	Cx. quinquefasciatus	Mecca	50	CO2	6/18/19	WNV
Riverside	COAV541	3265	Cx. quinquefasciatus	Mecca	43	CO2	6/18/19	WNV
Riverside	COAV6	3295	Cx. tarsalis	Mecca	50	CO2	6/18/19	WNV
Riverside	COAV68	3219	Cx. tarsalis	Mecca	50	CO2	6/18/19	WNV
San Bernardino	SANB3	420	Cx. stigmatosoma	Colton	32	CO2	6/19/19	WNV
San Joaquin	SJCM8000	437	Cx. pipiens	Manteca	32	CO2	6/18/19	WNV
San Joaquin	SJCM8161	423	Cx. pipiens	Ripon	50	CO2	6/18/19	WNV
San Joaquin	SJCM8191	455	Cx. tarsalis	Lodi	34	CO2	6/18/19	WNV
Tulare	DLTA9403	993	Cx. quinquefasciatus	Visalia	37	GRVD	6/14/19	WNV
Tulare	DLTA9505	1014	Cx. quinquefasciatus	Visalia	10	BGSENT	6/14/19	SLEV
Tulare	DLTA9506	990	Cx. quinquefasciatus	Visalia	35	GRVD	6/14/19	WNV

TEST PROTOCOLS

Humans:

Specimens are tested by local laboratories with an IgM or IgG immunofluorescent assay (IFA) and/or an IgM enzyme immunoassay (EIA). Specimens with inconclusive results are forwarded to the California Department of Public Health Viral and Rickettsial Disease Laboratory (VRDL) for further testing with a plaque reduction neutralization test (PRNT).

Dead Birds

Oral swab samples collected from bird carcasses are tested at the UC Davis Arbovirus Research and Training laboratory (DART) or at a local agency for West Nile virus by RT-qPCR.

Sentinel Chickens:

Dried blood spot samples from sentinel chickens are tested at the California Department of Public Health Vector-Borne Disease Laboratory for IgG antibodies to West Nile, St. Louis encephalitis, and western equine encephalomyelitis viruses by an EIA. Positive samples are confirmed by IFA, western-blot, or PRNT.

Mosquito Pools:

Mosquito pools are tested at DART or at a local agency for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a multiplex RT-qPCR. Invasive *Aedes* mosquitoes (*Ae. aegypti* and *Ae. albopictus*) are also tested at DART for chikungunya, dengue, and Zika viral RNA by a separate RT-qPCR.

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Website Information: For updated information on WNV in California, please visit the California WNV website, www.westnile.ca.gov, or the California Vectorborne Disease Surveillance System website, www.calsurv.org. For national information on WNV and other arboviruses, please visit the CDC websites: www.cdc.gov and https://wwwn.cdc.gov/arbonet/maps/ADB_Diseases_Map/index.html.
